

Within-Trial Cost-Effectiveness of Lifestyle Intervention or Metformin for the Primary Prevention of Type 2 Diabetes

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Abstract

OBJECTIVE—The Diabetes Prevention Program (DPP) demonstrated that intensive lifestyle and metformin interventions reduced the incidence of type 2 diabetes compared with a placebo intervention. The aim of this study was to assess the cost-effectiveness of the lifestyle and metformin interventions relative to the placebo intervention.

RESEARCH DESIGN AND METHODS—Analyses were performed from a health system perspective that considered direct medical costs only and a societal perspective that considered direct medical costs, direct nonmedical costs, and indirect costs. Analyses were performed with the interventions as implemented in the DPP and as they might be implemented in clinical practice.

RESULTS—The lifestyle and metformin interventions required more resources than the placebo intervention from a health system perspective, and over 3 years they cost approximately \$2,250 more per participant. As implemented in the DPP and from a societal perspective, the lifestyle and metformin interventions cost \$24,400 and \$34,500, respectively, per case of diabetes delayed or prevented and \$51,600 and \$99,200 per quality-adjusted life-year (QALY) gained. As the interventions might be implemented in routine clinical practice and from a societal perspective, the lifestyle and metformin interventions cost \$13,200 and \$14,300, respectively, per case of diabetes delayed or prevented and \$27,100 and \$35,000 per QALY gained. From a health system perspective, costs per case of diabetes delayed or prevented and costs per QALY gained tended to be lower.

CONCLUSIONS—Over 3 years, the lifestyle and metformin interventions were effective and were cost-effective from the perspective of a health system and society. Both interventions are likely to be affordable in routine clinical practice, especially if implemented in a group format and with generic medication pricing.

DPP, Diabetes Prevention Program

IGT, impaired glucose tolerance

NNT, number needed to treat

QALY, quality-adjusted